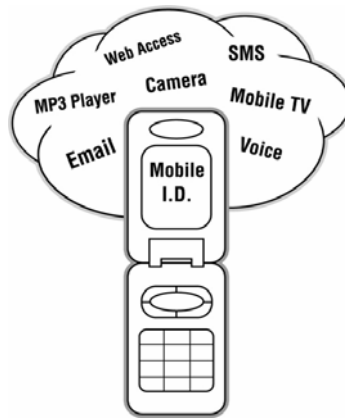


WHO AND WHAT IS THE WIRELESS INDUSTRY?

A SELF-PORTRAIT



THE WIRELESS INDUSTRY IS NEITHER A MONOPOLY NOR A UTILITY. IT IS A DYNAMIC, COMPETITIVE, EVOLVING ECOSYSTEM

- **Facilities Based Providers.** There are more than 180 wireless licensees, hundreds of equipment manufacturers and suppliers, and thousands of applications and software developers, Internet access and service providers, network security companies, and more, employing anywhere from tens of thousands of people across the world to just a dozen or so down the street.
- **Non-Facilities Based Providers.** Wireless service providers also include companies who act as “Mobile Virtual Network Operators” (MVNOs) by reselling the service of other companies. Examples of MVNOs include Tracfone, Liberty Wireless, and Virgin Mobile. Companies like Disney/ESPN, Earthlink, 7-Eleven, and university-affiliated wireless “affinity” groups are also trying to sign-up people as their own wireless customers.¹
- **Every Size and Shape.** The 183 facilities-based wireless licensees include companies that hold licenses to deliver services traditionally described as cellular, PCS, or “enhanced specialized mobile radio” (ESMR). Carriers offer national, regional and in some cases, even single geographic license area coverage.²

¹ See e.g., “ESPN targets data, but Boost says youth still spend most,” *Mobile Media*, Jan. 14, 2005, at 10. See also Sean Buckley, “Setting sail: as wireless becomes more critical to operators’ strategies, MVNO may be the best way in,” *Telecommunications Americas*, July 2004, at www.findarticles.com/p/articles/mi_m0NUH/is_7-8_38/ai_n6145615.

² The FCC’s E911-related Tier system classifies “nationwide” wireless carriers as Tier 1 providers, “non-nationwide” wireless carriers with more than 500,000 subscribers as Tier 2 providers, and “non-nationwide” wireless carriers with less than 500,000 subscribers as Tier 3 providers. In fact, as examination of the websites of such companies reveals, they provide a wide variety of services, including local, regional, national and nationwide calling plans, without regard to their Tier classification. Calling plans are not tracked by CTIA’s surveys.

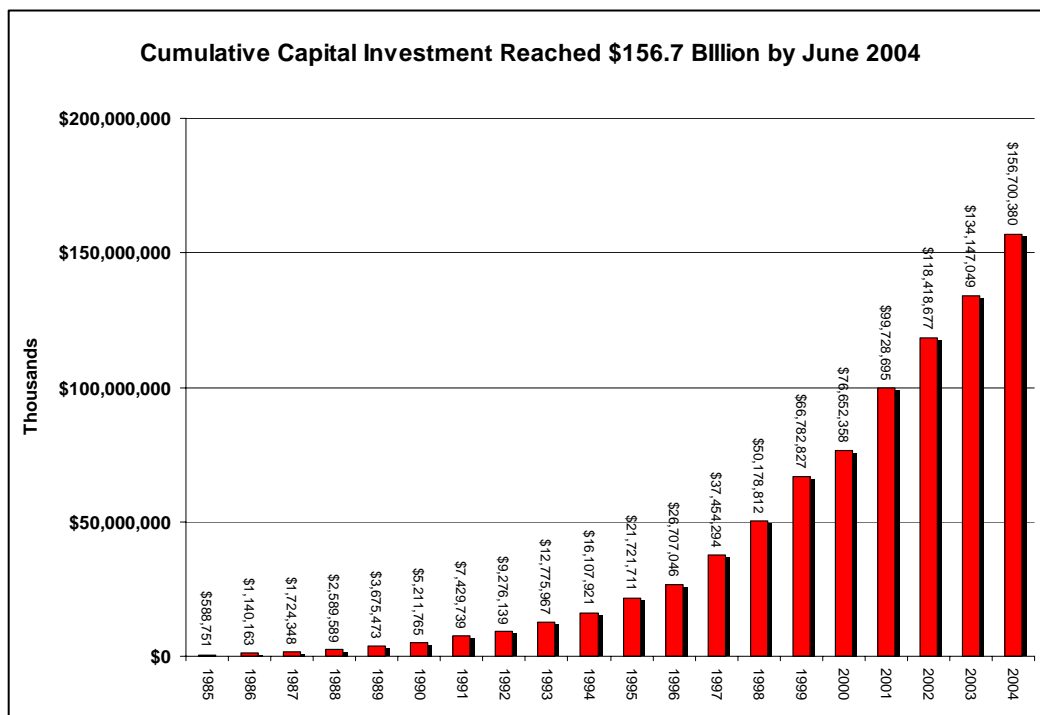
HOW DID THIS HAPPEN? A NATIONAL, FEDERAL REGULATORY FRAMEWORK

- During its first ten years of existence, 13 million customers signed-up for wireless service. Now, there are more than 180 million wireless subscribers. And 183 providers of wireless service. How did this happen? Section 332 of the Communications Act happened.
- In 1993, Congress amended Section 332 of the Communications Act and created a federal, national regulatory framework for “commercial mobile radio services”, exempting such services from traditional, economic regulation typically applied in the landline context, as well as from state rate and entry regulation.
- The industry exploded. Over the next ten years, more than 160 million wireless customers signed-up for service.

WHAT DOES THE WIRELESS INDUSTRY DO?

- The industry **provides an ever expanding array of services**, from voice, text messaging, e-mail and office systems access to Web browsing, polyphonic ringtones, games, MP3 player applications, mobile TV, and more.
- The **industry competes on price**, with the effective price per minute of wireless service falling more than 80 percent over the past ten years according the Federal Communications Commission’s (FCC) Wireless Telecommunications Bureau.
- The **industry continuously evolves its billing options and calling plans to respond to consumer demands**, offering regional and national calling plans, big bucket plans which include thousands of minutes a month, no-roaming plans, and a variety of other calling options.
- Wireless carriers **serve more than 180 million Americans, of all types**. Fifty-six percent of all American teenagers, half of all Americans between 65 and 74, and 30 percent of those between 75 and 84 subscribe to commercial mobile wireless services.³
- The industry **invests in infrastructure**. Wireless companies have invested more than \$156 billion in cumulative capital investment in their networks and operations, and paid more than \$22 billion to the federal government for the spectrum needed to provide the services consumers want. Wireless companies have essentially re-built their networks two to three times over the past decade – as they overlaid the original analog system prescribed by the federal government with new digital systems, and new generations of digital systems to deliver new services at faster speeds, with higher quality.
- The wireless industry **provides a safety tool** – every year, more than 70 million calls are made to 911 using mobile wireless phones.

³ See “Teenagers Connected by the Convenience of Cellphones,” at <http://www.newstarget.com/003682.html>. See also Jeffrey Selinger, “Not Just for Emergencies Anymore,” *New York Times*, February 3, 2005, at E1. See also Jason Gertzen, “A Boost in Wireless Teens?” *Kansas City Star*, February 19, 2005.



THE WIRELESS INDUSTRY: A CASE STUDY FOR ECONOMIC GROWTH IN THE U.S.

Wireless service providers directly employ more than 200,000 people across the United States, pay more than \$ 9 billion in annual payroll, have invested on average more than \$20 billion a year in new facilities over the past five years, and deliver almost one trillion minutes of calls per year and over two billion text messages a month for more than 175 million customers.⁴

The economic benefits produced by the wireless industry include the high technology employment and payrolls of wireless manufacturers, as well as the “hot house” effect of research and development, and the consumer surplus associated with the multiple wireless products and services now enjoyed by more and more people for personal and professional purposes.⁵ **Wireless carriers alone generated more than \$95 billion in service revenues in the United States from July 1, 2003 through June 30, 2004.**⁶ And these products and services have enabled millions of workers across the economy to be more productive.

⁴ CTIA-The Wireless Association™ conducts a semi-annual survey which tracks wireless investment, employment, subscribership, traffic measures and other key indicators, reported at http://www.ctia.org/public_policy/statistics/index.cfm/AID/10030. The Bureau of Labor Statistics’ Census of Employment and Wages tracks employment and wage data for a sample population of service providers. See <http://www.bls.gov/cew/>.

⁵ See e.g., “California’s Wireless Wonders,” O’Melvery / San Diego Regional Technology Alliance, 2002, at <http://www.systemsupportolutions.com/WhitePapers/WirelessReport.pdf>, and CEA 2000 Report at 11-12 (describing spillover benefits of economic clusters in high technology fields).

⁶ CTIA semi-annual survey results, *op cit*.

Wireless in particular offers opportunities for economic growth and productivity in rural America. Denis Miller, CEO of Midwest Wireless, recently told the U.S. House of Representatives' Rural Caucus during a hearing on telecommunications and rural America:

The best thing the FCC and Congress can do to protect the health and safety of rural Americans is to ensure that critical infrastructure continues to be built out in rural communities. . . .

We can think of few achievable goals more important than driving investment into rural areas that will improve the infrastructure needed to complete emergency calls. Encouraging wireless carriers to become ETCs and ensuring that funds are spent on network construction is critical to delivering this vital benefit to rural America. . . .

Today, many companies and people consider rural areas as more attractive places to locate and to live and one of the major factors involved in selecting a community is the quality of its telecommunications infrastructure. Wireless service is a very important factor in the equation. **More and more companies and people today rely on wireless phones to improve efficiencies and manage their businesses.**⁷

Over the past few years, wireless licensees have been deploying advanced technologies across the country, and analysts expect investment in new 3G technologies to increase over the next two years.⁸ As the FCC found in its *Ninth Report*, "277 million people, or 98 percent of the U.S. population, live in counties where GPRS, 1xRTT, and/or 1xEV-DO networks have been deployed."⁹ These resources are being brought to bear in rural America. For example, wireless carriers have launched initiatives to serve American Indian reservations in Arizona, New Mexico and South Dakota.

Last year, the Rural Cellular Association told the FCC of the results of a survey it had conducted, which found that an average of 5.1 competitors provide service in rural markets. The National Telecommunications Cooperative Association also recently found that of their members providing commercial mobile wireless service, 32 percent each use TDMA, CDMA, and GSM, and five percent use AMPS.¹⁰

Smaller companies from ACS Wireless of Alaska to First Cellular of Southern Illinois, from Highland Cellular (of Virginia and West Virginia) to Cellular South (which provides service from Mississippi to coastal Alabama and the Florida panhandle), have deployed digital technologies from CDMA 1XRTT and CDMA EV-DO to GSM.

⁷ Written Statement of Dennis Miller on Behalf of Midwest Wireless and the Rural Cellular Association, House Rural Caucus Telecommunications Task Force Briefing on the Future of Telecommunications Policy and the Universal Service Fund in Rural America, February 2, 2005.

⁸ See e.g., The Comments of CTIA-The Wireless Association™, In the Matter of Wireless Broadband Access Task Force Request for Public Comment on Issues Related to the Federal Communications Commission's Wireless Broadband Policies, GN Docket No. 04-163, filed June 3, 2004 (identifying companies deploying advanced wireless technologies). See also "UBS Telco Wake-Up Call," November 29, 2004 ("US wireless spending on 3G technologies is poised for growth in 2005-06").

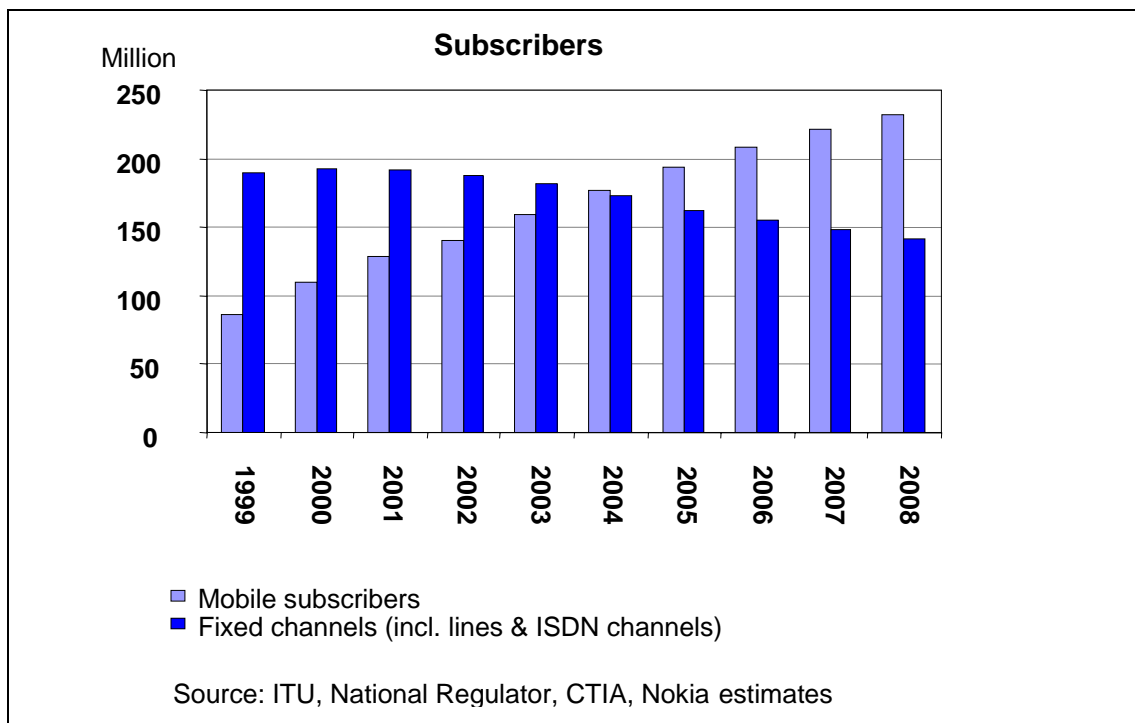
⁹ *Ninth Report on Competition* at paragraph 189, noting the variety of technologies being deployed to deliver high-speed data services across America.

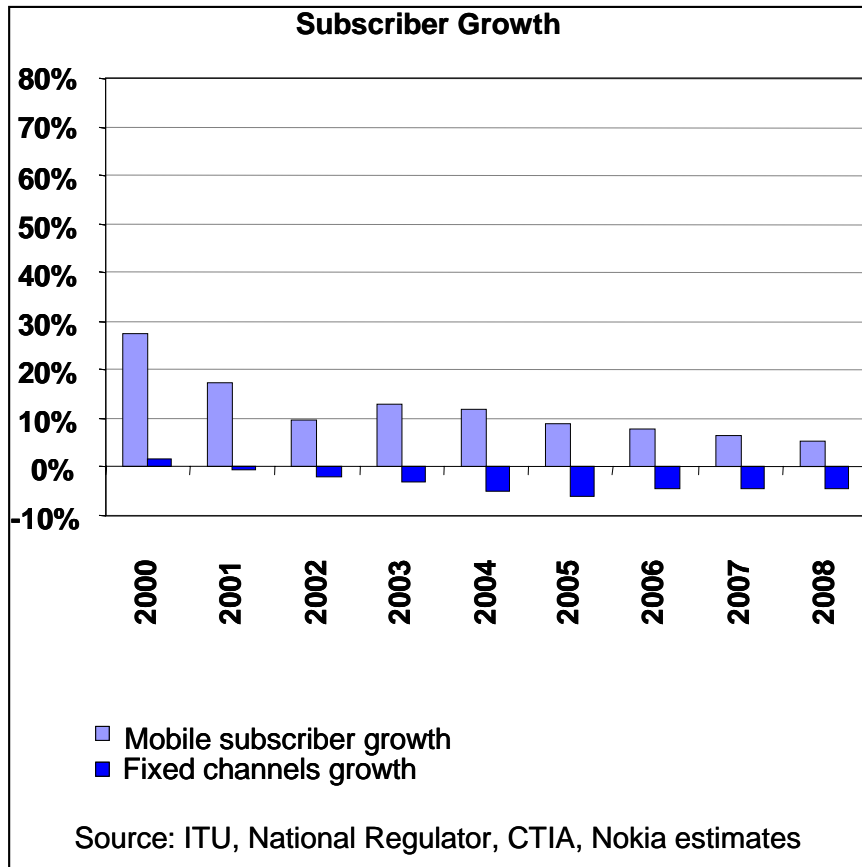
¹⁰ See http://www.ntca.org/content_documents/NTCA_2004WirelessSurveyReport.pdf.

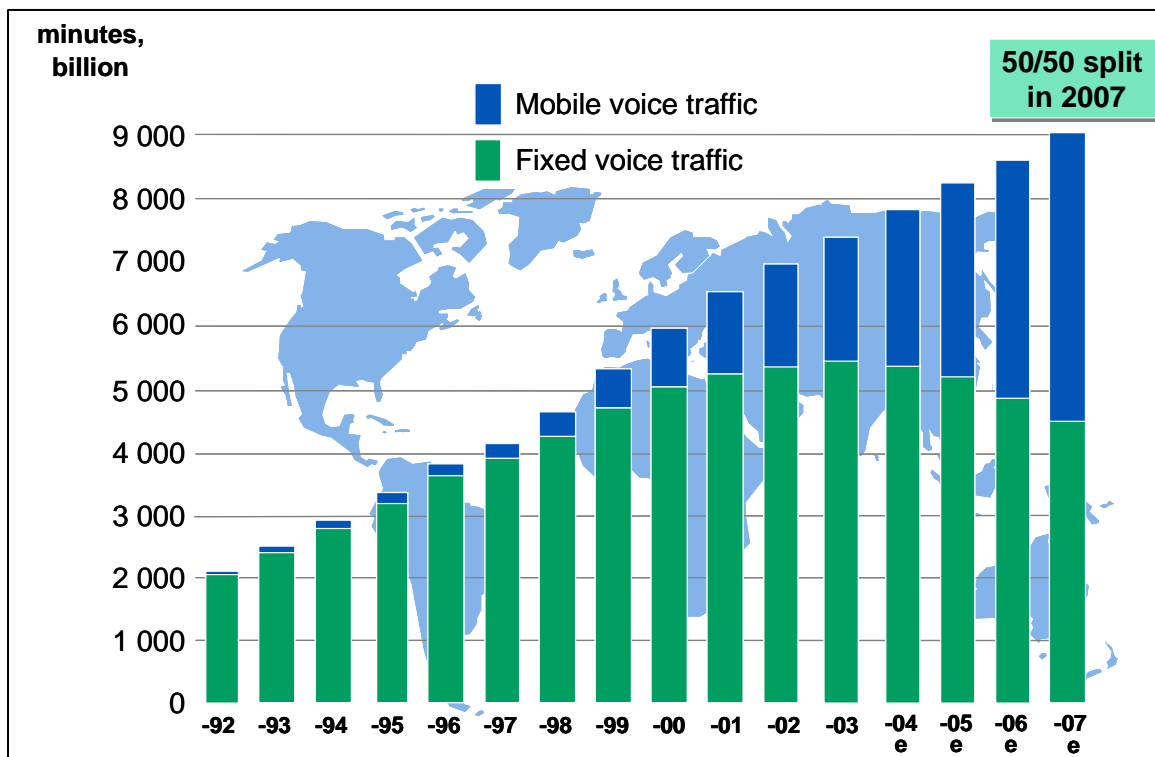
Wireless companies serving rural markets are deploying new cell sites to both expand coverage and support the delivery of new applications. For example, Cellular South has added more than 100 cell sites to its network since September 2003, and has converted its entire network to CDMA 1XRTT. Virginia Cellular and other companies serving small and rural markets are also deploying new cell sites and overlay technologies.

WHAT DOES THE WIRELESS FUTURE HOLD? THE FUTURE IS WITHOUT LIMITS (OR WIRES)

The proliferation of IP-based networks and the explosion of wireless data services and new, non-voice wireless applications are changing the dynamic of the wireless industry. Wireless broadband services are expanding at an accelerating rate in the United States. Verizon Wireless currently offers 3G broadband in 32 cities in which 75 million people live and work. Sprint PCS plans to make such 3G broadband services available to 129 million people in 39 major cities by mid-2005. These are just two of the many service providers who are deploying new, high-speed network technologies in order to deliver to consumers the essential benefits of wireless broadband service – seamless mobility and lifestyle management.

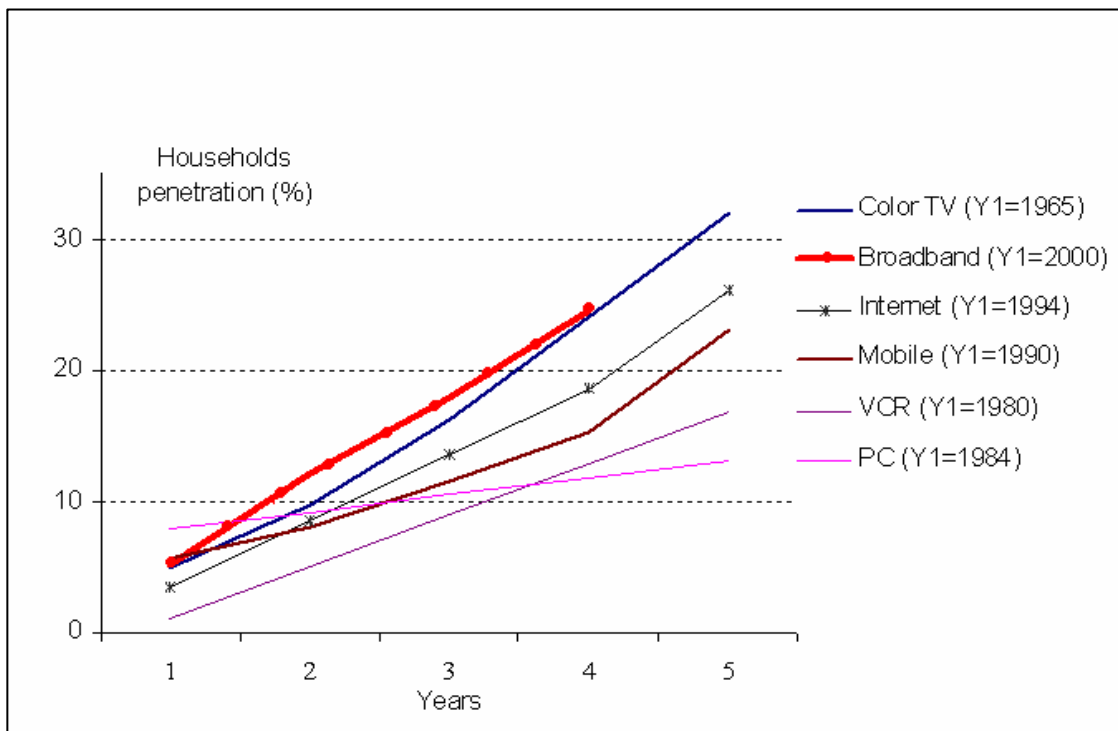






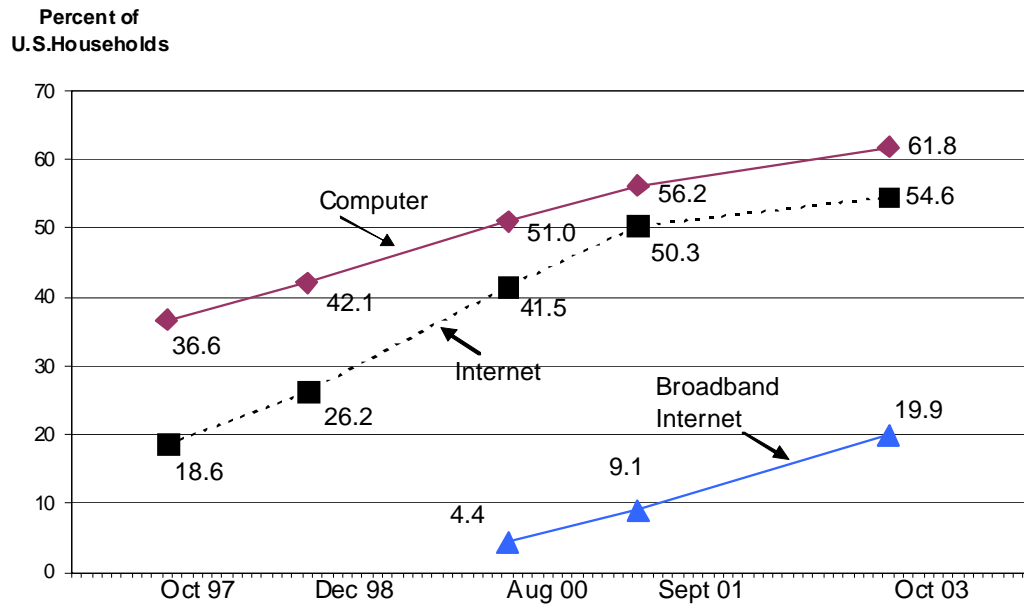
Source: Nokia

PROLIFERATION OF BROADBAND: A COMPARATIVE STUDY



Source: OECD, 2003

Percent of Households with Computers and Internet Connections, Selected Years, 1997-2003*



* NOTE: 2001 and 2003 reflect 2000 Census-based weights and earlier years use 1990 Census-based weights.

Source: *A Nation Online: Entering the Broadband Age* (September 2004, using October 2003 Census data).